Characteristics of Long-Term Mentally Ill Patients: Policy Implications

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This study examined the records of all psychiatric patients who were hospitalized over one year in a public sector institution. The 88 patients primarily were men, hospitalized under a penal code, Hawaiian or other ethnic minority, and unmarried. Over 74% were hospitalized under a penal code. The State is moving toward a capitated managed care environment for the seriously and persistently mentally ill. With the majority of the patients who are hospitalized under a penal code, changes in the public policy concerning their care is needed. If no changes are made, all of the existing hospital beds potentially could be filled with forensic patients.

The rising cost of health care is a national concern. Patients with serious and persistent mental disorders contribute significantly to this increase, they frequently are hospitalized over an extended period of time, and account for more than 40% of the cost of mental health care.[1]

The chief of Adult Mental Health Services reports the average cost of hospitalizing a patient at Hawaii State Hospital, the public sector facility, is approximately $500 a day. At the time of this report, 88 individuals hospitalized at this psychiatric facility had a length of stay exceeding one year. According to Sherry Harrison, the annual cost to provide basic services for these patients is approximately $16 million or $182,500 ($500 x 365 days) per person. It can be argued that this is a cost-effective rate as compared to the average-daily cost in the private sector of approximately $1,000. However, a large portion of these patients could be placed in non-hospital settings.

To understand more clearly the factors that contribute to the length of stay, a variety of issues need to be examined. Barber et al[2] studied the clinical and demographic characteristics of 203 chronic inpatients at Western State Hospital in Staunton, Virginia. The most significant findings were: 1) the majority of the patients had a diagnosis of schizophrenia or organic mental disorder; 2) 32% of these patients had a violent episode 6 months prior to the conclusion of the study; 3) there was a prevalence of neurological abnormalities such as abnormal EEG, seizures, and a history of a head injury; 4) 62% of these patients were hospitalized either involuntarily or through a plea of *Not guilty by reason of insanity*.

Bigelow et al[3] studied the characteristics of hard-to-place state hospital patients. In their patient sample of 146, 62% were assaultive, 32% had a history of starting fires, and 80% had little or no self-care skills. Loud outbursts were a problem behavior for 62% of the patients.

After a 10-year follow-up study of a cohort of patients from Cambridge-Somerville Hospital in Cambridge, Massachusetts, in 1977 to 1987, an investigation by Dorwart[4] found what appears to be an increasing number of involuntarily committed patients who are at risk of harming themselves. Sixty-five percent of the patients in his review were involuntarily committed and 48% were assaultive. Ten percent of the patients were 65 years of age or older, 30% had medical co-morbidities, and 25% needed assistance with activities of daily living.

Similarly, Gottheil et al[5] assessed characteristics of long-term patients in 1981 and 1986 and found the proportion of patients hospitalized more than 5 years decreased, as did the overall hospital census. Also reported was an increase in the number of non-voluntary patients and a larger mix of older, disabled, and unemployed patients.

In a 1992 study, Soni et al[6] examined the differences between chronic schizophrenic patients in community and hospital settings. Hospitalized patients had a higher incidence of negative symptoms (primarily flattened affect and poverty of speech) and severe thought disorders as compared to those living in the community. They found the community patients received higher doses of neuroleptic drugs and, as a result, had a higher incidence of extra-pyramidal side effects.

The changing characteristics of schizophrenic patients admitted to state hospitals between 1970 and 1986 indicated that the number of African-American men increased in proportion to the other ethnic groups.[7]

These patients relied on either Medicare or their own funds to pay for the cost of services and were more likely to be indigent.

The majority of long-term patients tend to be diagnosed as schizophrenic, have a history of assaults, are a member of a minority group, and were hospitalized under a penal code charge. The purpose of this study is to compare the characteristics and demographics of the long-term patients identified in the literature with those surveyed in Hawaii and to discuss the implications of this comparison.

Methods

This study was conducted at Hawaii State Hospital, a 187-bed, public sector psychiatric facility serving the entire state. The average daily census at the time of this study was 178. Patients are located on 7 different nursing units. Three of the units are primarily for forensic patients, with the remaining units providing care for acute, cognitively impaired, older adults, and those patients needing biopsychosocial rehabilitation. Children or adolescents are not hospitalized at this institution.

Using the variables and criteria as identified from Barber et al,[2] all patients hospitalized more than one year as of January 1, 1993

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were included in the study. Using a survey tool adapted from their study, a registered nurse reviewed the records of 10 long-term patients and determined that the required information could be retrieved. She then reviewed the records of all patients eligible for inclusion in the study. Forty-nine percent, or 88 of the inpatients met this criteria (Table 1).

The demographic data were analyzed using descriptive statistics and a two-tailed, unpaired statistic to compare group means of age, years since onset of illness, years of hospitalization, educational level, marital status, ethnicity, and legal status. Comparisons were made between gender, ethnicity, type of legal status, age, history of violence, abnormal EEG, history of head injury, and Axis I and nursing diagnosis employing chi square statistics.

Results

The patient population was comprised primarily of men, hospitalized under a penal code, of Hawaiian or other ethnic minority, and unmarried. The average length of hospitalization was 5.2 years with a standard deviation of 4.1 years (Table 1).

Legal Status

Voluntary patients comprised 18.2% of the group with 4.5% who had been civilly committed. More than 74% of the patients had been hospitalized under a penal code (Table 1). Men represented some 86.4% (df=1, p=.001).

Ethnic Mix

The ethnic category was reported by the patient using the *State of Hawaii Data Book*[8] as a guide. The patients were classified into one of the 5 largest ethnic groups in the state or into the *Other* category.

In the study population, the ethnic mix for Hawaiians, Caucasians and the Other category was significantly different from that found in the general population (df=5, p=.05). Caucasians were underrepresented at 15.9%, while according to *The State of Hawaii Data Book* they comprise 33.4% of the population. Hawaiians were 20.5% of the patients and only 12.5% of the general population. The other ethnic groups were collapsed into one group because of small cell sizes. In this group were 3 African-Americans, 1 Laotian, 1 person of mixed ethnicity, 5 Portuguese, 3 Puerto Ricans, 5 Samoans, 1 Tongan, and 1 Vietnamese.

DSM-III-R

The DSM–III–R Axis I diagnosis is illustrated in Table 2. A schizophrenic diagnosis was found in 67% of the patients. Of this diagnostic classification, the most frequent grouping was chronic paranoid (17%), followed by schizoaffective (14.8%), chronic undifferentiated (13.6%) and (10.2%) paranoid type. Only 10% had an organic diagnosis; 5.7% an Axis I diagnosis of substance abuse. Four patients had no Axis I diagnosis. Using a chi square analysis, no significance was found between Axis I diagnoses and ethnicity.

Twenty-eight percent of the patients had 2 Axis I diagnoses and 6% had 3. The most common second Axis I diagnosis was substance abuse, accounting for 13% of the patients.

An Axis II diagnosis was determined in 34% of the patients. The most common diagnosis was personality disorder and encompassed 17% of the patients. Mental retardation followed with 10.2% of the group.

Thirty-four different medical diagnoses comprised the Axis III classification. Sixty-one percent of the patients had no Axis III diagnosis. The most common diagnosis was essential hypertension for 6.8% of the patients and diabetes mellitus and acne, both with 3.4% of the population studied.

Nursing Diagnosis

Thirteen different nursing diagnoses were found for 92% of the patients (Table 3). Eight percent had no nursing diagnosis.

When comparing the nursing diagnosis with the most frequent Axis I diagnosis, schizophrenia, 23.8% had a nursing diagnosis of ineffective individual coping and 28.4% had a nursing diagnosis of alteration in thought process. These findings were marginally significant (d=39, p=.059). The other Axis I diagnoses were not significant when compared to the nursing diagnosis.

Table 1.—Demographic Characteristics

	Both N=88	Men N=76 (86.4%)	Women N=12 (13.8%)
Mean age	39.2	39.1	43.8
Mean years ill	17.2	17.3	19.5
Mean years this hospitalization	5.2	5.5	3.3
Mean years education	11.6	10.4	11.1
Married-past or present	26%	24%	25%
Civil code			
Voluntary	18.2%	13.6%	4.5%
Civil commit	4.5%	3.4%	1.1%
Penal Code			
Unfit to Proceed	3.4%	3.4%	0%
Acquit/Commit	54.5%	51.0%	3.4%
Acquit/Commit until clin discharged	3.4%	2.2%	1.1%
Revocation of condition release	12.5%	9.0%	3.4%
Other	3.4%	3.4%	0%
Ethnicity			
Caucasian	15.9%	14.7%	1.1%
Chinese	3.4%	1.1%	2.2%
Filipino	12.5%	11.3%	1.1%
Hawaiian	20.5%	17.0%	3.4%
Japanese	19.3%	13.6%	5.6%
Other	28.4%	28.4%	0%

Table 2.—Axis I Diagnosis N=88

Schizophrenia	73%
Affective disorders	10%
Organic disorders	8%
Other psychosis	1%
Mental retardation	0%
Substance abuse	20%
No diagnosis	5%
Noncompliant med treatment	3%

Total exceeds 100% as some patients have more than one Axis I diagnosis.

Benefit Status

Eighty-three percent of the patients received some type of state or federal assistance: 17% benefited from the Medicare or Medicaid program; 17% received no government funds from Medicare or Medicaid.

Clinical Features

Eighty-three percent of the patients had no history of physical violence; 12 patients, or 13.6%, had been violent during the past 6 months. Sixty-four percent, however, did have a history of violence during their hospitalization. Men were more likely to have been violent, 59% versus 5.7% for women (df=3, p= .045). There was no significance between the legal status and a history of violence during the previous 6 months or during the entire hospitalization.

Medications

Seventeen different psychotropic medications were administered to the long-term patients. For schizophrenic patients the most frequently prescribed medication was clozapine (14.8%), haloperidol decanoate (9.1%), and thiothixene (6.8%) (df=51, p=.003). No medications were prescribed for 12.5% of the patients. One percent of the affective-disorder patients received haloperidol, 3.4% were given lithium carbonate, and 2.3% were administered chlorpromazine. A second drug was administered to 51.1 % of the patients, 21.6% received 3 drugs, and 5.7% were given 4 drugs. The most common second drug was divalproex sodium at 10.2%, and benztropine mesylate at 9.1%. The third most commonly prescribed drug was benztropine mesylate at 4.5%, and divalproex sodium at 3.4%.

Reason for Hospitalization

The most common reason for hospitalization was "Not guilty by reason of insanity" (Table 4). More than 73% of the subjects were in this category. Only 14.8% were clinically unstable or unable to care for themselves in a less-restrictive environment. "No housing options" was a problem for 13.6% of the patients. Eight percent were a danger to themselves or others.

Discussion

Patients hospitalized more than one year account for 49% of the total hospital census. Many of the patient characteristics found in this study correspond with findings in the literature: 62% of patients had a diagnosis of schizophrenia, 92% had a history of violence during their hospitalization, and 24% had an organic diagnosis.[2] In this study 73% were schizophrenic, 64% had a history of violence, and only 8% had organic diagnosis. Fewer than 13.6% of the patients had been violent in the past 6 months. These findings contrast sharply with those reported by Barber et al[2] who found a higher incidence in all of these areas.

Why are the patients in this sample apparently less violent and exhibiting fewer organic diagnoses? The first explanation is perhaps that conditions are under-diagnosed. A second possibility may be, with 74% of the long-term patients committed under a penal code, that they are now stable, but because of their legal status have not been discharged. In this study, a higher percentage of patients were involuntarily hospitalized under a penal code than those reported by Barber et al[2] and Dorwart.[4] Of their subjects, 63% to 65%, respectively, were forensic patients.

Nursing diagnosis was marginally significant when compared to the various Axis I diagnoses. These preliminary findings suggest that a more intensive evaluation of nursing diagnosis and their correlation to the Axis I diagnosis is warranted. Less than 55% of the schizophrenic patients had a nursing diagnosis of ineffective individual coping or alteration in thought process, which typically describes the nursing problems this diagnosis represents.

There could be a number of issues that contributed to this finding: 1) the registered nurses might have been unfamiliar with the diagnoses, 2) the patients did not exhibit the behaviors described by the diagnoses, or 3) the nurses' assessments did not lead to an accurate nursing diagnosis. Further research is needed to clarify these questions.

An increasing number of minorities who have been hospitalized as reported by Thompson et al[7] was also found in this study. Overrepresented in the patient population were Hawaiians and a variety of smaller ethnic minorities. Caucasians were underrepresented. This study seems to confirm the continuing trend that ethnic minorities are increasingly overrepresented in state hospital populations. Also the high number who are indigent seems to corroborate that these growing numbers of minority patients have limited resources.

The lack of a significant number of Axis III diagnoses was surprising. Perhaps the medical problems of the chronic psychiatric patients are frequently under-assessed. To address this problem Hawaii State Hospital has contracted with the University of Hawaii's Schools of Nursing and Medicine to provide a nurse practitioner and a board-certified internist to upgrade the level of medical care. Working collaboratively with the existing medical staff, they are responsible for both coordinating and providing medical services.

Perhaps the most significant finding of this study was that 74%

Table 3.—Primary Nursing Diagnosis N=88

Communication impaired	2.3%
Coping, ineffective individual	23.9%
Health maintenance	3.4%
Injury, high risk	1.1%
Knowledge deficit	1.1%
Nutrition altered	2.3%
Self-care deficit	2.3%
Sensory perceptual alteration	3.4%
Social interaction, impaired	10.2%
Social isolation	2.3%
Thought process altered	28.4%
Violence, high risk	9.1%
Other	8.0%
None	2.3%

Table 4.—Reasons Why Patients Still in Hospital N=88

Clinically unstable	14.8%
Unable to care for self in less restrictive environment	14.8%
No housing options	13.6%
Decompensates with discharge planning	2.3%
Dangerous to self or others	8.0%
Noncompliant with meds	5.7%
Not guilty by reason of insanity	70.4%

Total exceeds 100% as some patients have more than one reason.

of the patients were hospitalized under a penal code. Theoretically this means, given the present growth in the forensic population, these patients could eventually take all of the available beds in the state. It is entirely possible that in the near future the voluntary and civilly committed patients could find "no room at the inn."

The State of Hawaii will eventually need to develop alternative plans to manage this group of patients. One consideration could be the establishment of supervised group homes and intermediate care facilities for the nonviolent patients who are now stable. Only 13.6% of the patients had been violent during the past 6 months. Approximately 36% of the patients were either clinically unstable, unable to care for themselves in a less-restrictive environment, or dangerous to self or others. For these patients, continued hospitalization is probably warranted. However, for patients who needed housing, were noncompliant with medications, or were patients only because of the "Not guilty by reason of insanity" plea, potentially they could be managed outside of the hospital setting.

One of the major public concerns is the safety of the community when forensic patients are placed off hospital grounds. There seems to be a myth that if patients are in a hospital then the public's interests are protected. As forensic experts acknowledge, most patients have committed nonviolent crimes and probably pose no danger to themselves or others at the time of commitment.

A variety of instruments and/or protocols have been proposed to assess when forensic patients can be placed safely in the community. Some agencies use the Minnesota Multiphasic Personality Inventory and Rorschach tests in predicting dangerousness. But there is no clear consensus regarding their usefulness in predicting readiness for community placement.[10] An instrument developed at Patton State Hospital, California, measures a forensic patient's readiness for community outpatient treatment. The scale measures 15 different items, as such illness, behavior, substance abuse, and future plans. The validity and reliability of the instrument is not reported. Maier et al[1] discuss a variety of security safeguards used at the Mendota Mental Health Institute in Madison, Wisconsin, to determine if forensic patients are appropriate for community placement. Their tool has been in use for 7 years and the scale has proven reliable. They use such interventions as a 3-month community orientation, release-planning groups, buddy systems, and security sign-in/sign-out to facilitate the transition.

Perhaps safeguards that use such assessment instruments and protocols would facilitate the appropriate discharge from the hospital into the community. A safer approach, at least from the public's perspective, would be transferring patients from the hospital into either a group home or intermediate care facility.

The cost for maintaining a patient in a group home is estimated to be approximately $70 a day or $2,100 a month. As mentioned previously the cost to hospitalize 1 patient is estimated to be $15,000 a month. If only 30 of the current long-term patients could be discharged to a group home, the savings would be significant. A monthly savings of $387,000 is achievable; the annual savings could exceed $4.6 million. Even if the estimate is high and only 20 patients could be managed in a group setting, the savings would still be $258,000 a month.

If the patient requires a higher level of skilled nursing, an intermediate care facility might be appropriate. These units generally have a higher staff-to-patient ratio than a group home, and thus are able to provide a higher standard of care and more protection for the community. It appears a significant number of long-term care patients from this study could be transferred to such a facility. The cost to operate a unit would be substantially below those of a hospital.

A major obstacle to facilitating these types of moves are the acquit and commit statutes. In Hawaii, the patient may petition the court annually for conditional release. The courts, for a variety of reasons, have been extremely hesitant to release patients once they have been acquitted and committed to the custody of the Director of Health for treatment. Part of the concern lies with public misconceptions about the mentally ill, the high number of indigent minority groups, public defenders who have heavy case loads and seem reluctant to invest much time in these cases, and a State Attorney General's office whose role is not to advocate for patients but for the interests of the State.

Hawaii statutes for the most part do not conform to the American Bar Association's criminal mental health standards. If the state legislators and the governor enacted into law the major standards recommended by the American Bar Association,[12] many of the inconsistencies might be resolved. The public officials responsible for managing the criminally insane might want to jointly collaborate in drafting model legislation to address the shortcomings in the Hawaii statutes.

The State of Hawaii, in July 1993, received a waiver from the Health Care Financing Administration to combine its Medicaid and other general entitlements into a managed care program called QUEST.[13] This program provides 13 days of inpatient psychiatric care and 12 outpatient visits per year for acute services. In 1994, the State will develop a separate, fully capitated, managed mental health program for the seriously disturbed mentally ill, the chronic alcohol and substance abuse patients. This means, potentially, there will be a fixed amount of funds available to care for this population.

It is unclear how the State hospital will operate under such a system. It is possible the State or a private vendor will be given a fixed capitated rate to manage these patients. It seems certain the resources will be limited. It is also apparent from both the literature review and the findings of this study, the forensic population will continue to grow. The State must manage these patients in a cost-effective manner.

With our health-care resources becoming more precious, administrators will need to examine existing delivery models to ensure they provide quality outcomes and are cost-effective. Many challenges face the mental health delivery system and they require innovative solutions. Managing the growing forensic patient population is one of the main challenges as identified in this study.

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➤*Continued on Page 417*

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Long-term Mentally Ill Patients

➤ *Continued from Page 415*

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President's Message

➤ *Continued from Page 403*

Lewin, the HMA Legislative Committee will be looking at commenting on a state version of the Patient Protection Act. Anyone wishing to comment should contact HMA staff or Dr Jack Lewin. Dr Lewin wants to ask every member of the HMA to become involved in this year's legislative process. You will be hearing from him shortly.

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